TERELABRUS RUBROVITTATUS, A NEW GENUS AND SPECIES OF LABRID FISH FROM NEW CALEDONIA AND NEW GUINEA

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ABSTRACT

Terelabrus rubrovittatus is described as a new genus and species of labrid fish from a 87-mm male specimen collected in 100 m off New Caledonia and a 32-mm juvenile from 92 m off eastern Papua New Guinea. This wrasse is distinct from all labrid fishes by the following set of characters: body elongate, the depth 6.2–6.3 in SL; head and anterior body cylindrical; eye large, 3.55–4.2 in head length; interorbital space nearly flat, 5.0–5.5 in head length; two pairs of large, well-spaced, recurved canine teeth anteriorly in each jaw; remaining conical teeth uniserial and small except for canine at corner of mouth; dorsal rays X,11; lateral line continuous and smoothly curved, the pored scales 42–43; and a distinctive red-striped color pattern.

In 1979 the junior author sent an 87-mm specimen and color photograph of a slender wrasse taken in a trap at 100 m at Bulari Pass, New Caledonia to the Bishop Museum. His suspicion that it represented a new genus and species was easily confirmed. The fish is cylindrical anteriorly, has large eyes, and X dorsal spines; it cannot be classified in any genus described in the family Labridae.

A decision was made to postpone the description of this distinctive wrasse until more material was collected. It was not until December 1995, however, that a second specimen was obtained. While on a dive cruise with the senior author out of Milne Bay, eastern Papua New Guinea, John L. Earle collected a juvenile, 32 mm in SL, from 92 m (using Cis-Lunar MK-4P rebreather dive gear with a mixture of oxygen, nitrogen, and helium). The juvenile has essentially the same meristic, morphometric, and dental characters as the New Caledonia adult specimen, and a similar color pattern.

Although we would much prefer to have more specimens on which to base our description, the realization that it might be many years before the next specimen is captured has led us to undertake the description at this time.

MATERIALS AND METHODS

The type specimens are deposited in the Bernice P. Bishop Museum, Honolulu (BPBM). Length measurements are standard length (SL), taken in a straight-line from the front of the upper lip to the midbase of the caudal fin (end of hypural plate). Body depth is the maximum depth from the base of the spinous portion of the dorsal fin to the ventral margin of the abdomen; body width is the greatest width just posterior to the gill opening. Head length is measured from the front of the upper lip to the posterior end of the opercular flap; snout length is from the front of the upper lip to the fleshy edge of the orbit. Orbit diameter is the maximum fleshy diameter; interorbital width is the least bony width. Caudal-peduncle depth is the least depth, and caudal-peduncle length the horizontal distance between verticals at the rear base of the anal fin and the caudal-fin base. The lengths of fin spines and rays are measured from the tip to where they emerge from the body. Pectoral-ray counts include the rudimentary upper ray. Lateral-line scales are counted to the base of the caudal fin (hence the count does not include two pored scales posterior to the base of the fin). Gill-raker counts include rudiments. A cut was made on the right side of the holotype from the corner of the mouth through the base of the pectoral fin in order to examine the pharyngeal teeth.

A diagnosis is given for the new genus and a full description of the new species. Data in parentheses in the description of the species refer to the paratype. Proportional measurements in the text are rounded to the nearest 0.05.

SYSTEMATICS

Terelabrus new genus

Type species.—Terelabrus rubrovittatus Randall and Fourmanoir

Diagnosis.—Dorsal rays X,11; anal rays III,12; pectoral rays 15; lateral line continuous and smoothly curved, the pored scales 42–43; small scales on nape and operculum, those middorsally on nape extending forward to above posterior margin of preopercle, those on cheek to below anterior edge of pupil; no sheath of scales at base of dorsal and anal fins; margin of preopercle smooth; body elongate, the depth 6.2–6.3 in SL; head and anterior body cylindrical; eye large, 3.55–4.2 in head length; interorbital space nearly flat, 5.0–5.5 in head length; teeth in jaws affixed to outer edge of a distinct, exposed, bony ridge, not fused to form a shearing edge in upper jaw; two pairs of large, well-spaced, recurved canine teeth anteriorly in each jaw, the second pair angling outward; a forward-projecting canine posteriorly on upper jaw (at corner of mouth); about eight conical teeth in a row at side of jaws, followed by a row of abruptly smaller conical teeth; each of the pair of upper pharyngeal bones triangular with about 18 nodular teeth, none enlarged (replacement teeth forming on oblique anterior surface not counted); median anterior process of T-shaped lower pharyngeal bone with ten teeth (conical anteriorly, nodular posteriorly), the anterior two median, the remaining eight in a well-separated double row; transverse posterior part of lower pharyngeal bone with two rows of teeth, 14 in the back row, the most lateral bluntly conical, the median three as enlarged oval molars; nasal organ in an oval chamber with a convex cutaneous roof containing the nostrils, the anterior small with a short membranous tube, higher at the back, and the posterior a large aperture without a rim; sensory pores of head numerous and prominent; dorsal and anal spines with a long cirrus at tip; anal spines notably slender; caudal fin slightly rounded with 14 principal rays; branchiostegal rays 6; vertebrae 11 + 17.

Remarks.—This new genus is named *Terelabrus* from the Latin *teres,* meaning terete or cylindrical, in reference to its unique body shape for a labrid fish.

Norman (1957) divided the Labridae into nine subfamilies and provided a key. Except for its having X dorsal spines, *Terelabrus* keys to Norman's Bodianinae. Gomon (1979) revised the tribe Hypsigenyini (Bodianini of Gomon and Randall, 1978) in which he placed nine genera. *Terelabrus* is clearly distinct from all of these genera. Although sharing some features with *Decodon* Günther and *Polylepion* Gomon, it seems closest to *Bodianus* Bloch. Gomon (1979) defined *Bodianus* osteologically by its species having a distinct medial ethmoid-frontal depression, the ventral surface of which is overlapped by the posterior flange of the medial ethmoid.

Of the subgenera of *Bodianus, Terelabrus* is most similar to *Trochocopus* Günther (diagnosed by Gomon and Madden, 1981) which includes *Bodianus opercularis* (Guichenot), *B. sanguineus* (Jordan and Evermann), *B. bimaculatus* Allen, *B. izuensis* Araga and Yoshino, *B. masudai* Araga and Yoshino, and *B. tankyokidus* Gomon and Madden. It shares with the species of this subgenus the anal-ray count of III,12; scale and gill-raker counts, structure of the lateral line (smoothly continuous, the tubule of each scale angling upward, except those on peduncle, the lateral-line scale margin indented to the pore; two pored scales extending onto base of caudal fin, the last enlarged and pointed); pattern of head squamation, smooth edge of the preopercle, structure of the nares, and size and shape of the fins. It also shares some features of the dentition, such as the two pairs of large recurved anterior canines in each jaw, the second pairs of which angle outward on adults, and the posterior canine of the upper jaw. It differs from

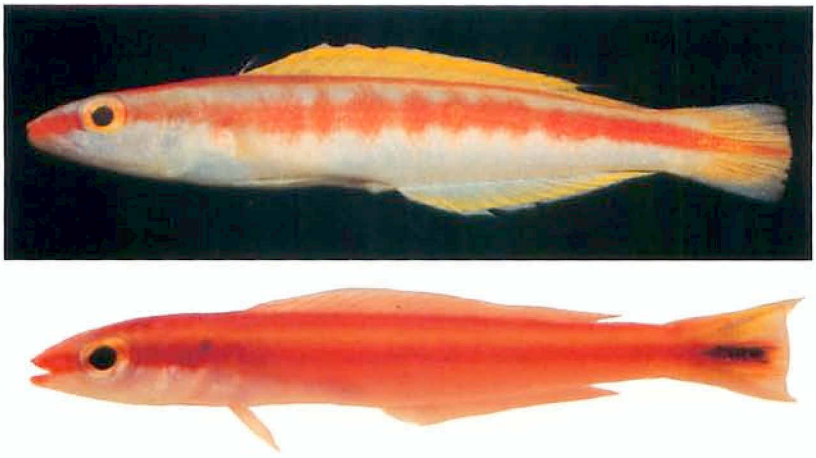

Figure 1. Type specimens of *Terelabrus rubrovittatus*. Upper figure, holotype, BPBM 37026, male, 87.0 mm SL, New Caledonia (P. Fourmanoir); lower figure, paratype, BPBM 36889, juvenile, 31.5 mm SL, eastern Papua New Guinea (J. Randall).

the species of *Trochocopus* (and other species of *Bodianus*) in having X,11 dorsal rays (XII,9–10 for the species of *Trochocopus*); a more elongate body; the cylindrical shape of the head and anterior body (species of *Trochocopus* are distinctly compressed); a larger eye; complete lack of a basal sheath of scales on the dorsal and anal fins; and different upper jaw and pharyngeal dentition. The species of *Trochocopus* have the teeth of the side of the upper jaw fused with the premaxilla to form a shearing plate with only the tips of some teeth barely protruding. The T-shaped lower pharyngeal plate in the species of *Trochocopus* is similar, though smaller and without any enlarged molars. However, the two juxtaposed upper pharyngeal bones of the species of *Trochocopus* are highly modified to a thin, obliquely transverse, sloping plate with a denticulate posterior edge (as if made up of fused incisiform teeth).

Terelabrus rubrovittatus Randall and Fourmanoir, new species
Figure 1; Table 1

Holotype.—BPBM 37026, male, 87.0 mm, New Caledonia, Bulari Pass, 100 m, trap, P. Fourmanoir, February, 1979.

Paratype.—BPBM 36889, 31.5 mm, Papua New Guinea, Milne Bay Province, NE coast east of Basilisk Point (10°15′54″S, 150°42′30″E), steeply sloping silty bottom with isolated rocks, 92 m, quinaldine, J. L. Earle, 5 December 1995.

Description.—Dorsal rays X,11; anal rays III,12; dorsal and anal rays branched, the last to base; pectoral rays 15, all except upper two branched (none branched in juvenile paratype); pelvic rays I,5; principal caudal rays 14, the median 12 branched; upper procurrent caudal rays 10, the most posterior segmented; lower procurrent caudal rays 9, the most posterior segmented; lateral-line scales 43 (42); scales above lateral line to origin of dorsal fin 3; scales below lateral line to origin of anal fin 12; circumpeduncular scales 17; median predorsal scales 8; median prepelvic scales about 17; gill rakers 15 (16); pseudobranchial filaments 18 (11); vertebrae 11 + 17.

Body elongate, the depth 6.2 (6.3) in SL, and cylindrical anteriorly (viewed

Table 1. Proportional measurements of type specimens of *Terelabrus rubrovittatus* expressed as percentages of the standard length

	Holotype BPBM 37026	Paratype BPBM 36889
Standard length (mm)	87.0	31.5
Body depth	16.2	15.8
Body width	13.6	14.4
Head length	32.0	34.6
Snout length	9.4	9.7
Orbit diameter	7.6	10.0
Interorbital width	6.4	6.1
Upper jaw length	10.1	9.2
Caudal peduncle depth	10.0	9.1
Caudal peduncle length	13.9	15.2
Predorsal distance	32.4	32.7
Preanal distance	55.1	54.6
Prepelvic distance	32.8	31.4
First dorsal spine	6.3	6.1
Second dorsal spine	7.4	7.0
Longest dorsal spine	9.3	8.6
Longest dorsal ray	14.2	10.2
First anal spine	4.3	4.1
Second anal spine	5.6	5.5
Third anal spine	7.3	7.4
Longest anal ray	11.5	9.9
Caudal fin length	19.0	20.6
Pectoral fin length	15.6	15.9
Pelvic spine length	9.8	8.9
Pelvic fin length	15.0	12.2

from the front, the head is round in cross-section except for nearly flat interorbital space); anterior body only slightly compressed, the width 1.2 (1.1) in depth, becoming more compressed posteriorly; head length 3.1 (2.9) in SL, the opercular flap long, extending slightly posterior to upper base of pectoral fin; snout moderately long and pointed, 3.4 (3.55) in head length; eye very large, 4.2 (3.55) in head length; interorbital space broad and very slightly convex, the least bony width 5.0 (5.5) in head length; caudal-peduncle depth 3.2 (3.8) in head length; caudal-peduncle length 2.3 (2.3) in head length.

Mouth large, the maxilla extending slightly posterior to a vertical at fleshy anterior edge of orbit (just to bony edge of orbit in paratype), the upper-jaw length 3.2 (3.75) in head length; mouth terminal; gape of mouth oblique, forming an angle of about 20° to horizontal axis of body; inner surface of upper lip with six oblique fleshy ridges; inner surface of lower lip with two longitudinal papillate ridges; lower lip with a thin flap extending ventrally on side of jaw, its greatest depth 3.25 (2.8) in orbit diameter; dentition as described for the genus; tongue very slender, the upper surface with small papillae; external nares as described for the genus. Gill rakers short and compressed, the longest on first gill arch about half length of longest gill filament. Gill membranes free from isthmus.

Margin of preopercle smooth, the ventral edge free to a point slightly anterior to a vertical at center of eye, the posterior edge reaching dorsally to level of center of eye.

Sensory pores of head prominent and numerous; pores around edge of orbit from behind upper edge of pupil to below anterior edge of bony orbit 20 (in-

cluding four on short side branches), the canal continuing as three branches ending in a pore on side of snout; pores along margin of preopercle 17 (three as side-branch pores), the canal continuing onto mandible where it bears seven more pores; a series of 25 pores of variable size from in front of lateral line through edge of interorbital to end anterior to nostrils (pore counts include those in short side branches); transverse canal following anterior edge of scales on nape with 33 pores, including those on 12 branches; a transverse canal across interorbital with a median branch bearing three pores.

Scales thin and cyloid; lateral line continuous, following dorsal contour of body; tubule of each lateral-line scale anterior to caudal peduncle angling upward with a single pore at end, the scale edge indented to meet pore; tubule of lateral-line scales of peduncular part of lateral-line with a horizontal tubule; two pored scales extending onto caudal-fin base, the last enlarged and pointed.

Scales on side of thorax about two-thirds as high as those on side of body, becoming progressively smaller anteriorly on isthmus; small scales dorsally on nape extending forward to above upper end of preopercular margin; opercle fully scaled except for opercular membrane, the scales about the same size as those of thorax; cheek scaled except for the broad pore-bearing flange of the preopercle, the largest scales behind eye about half size of those on opercle; scales of suborbital region still smaller, extending forward to below anterior edge of pupil; rest of head naked; no scales on base of dorsal, anal, and paired fins; large scales basally on caudal fin reaching nearly four-tenths distance to posterior margin, those of the last vertical row enlarged and pointed (including the last pored scale); a midventral scaly process extending posteriorly from between bases of pelvic fins, the last scale large, its pointed end reaching one-fourth distance to end of pelvic fins.

Origin of dorsal fin above posterior end of opercular flap; dorsal and anal spines slender (especially the anal spines), each with a long cirrus from behind tip (varying from about one-third length of anterior spines to one-fourth length of posterior spines); first dorsal spine 5.1 (5.7) in head length; second dorsal spine 4.35 (4.95) in head length; last five dorsal spines subequal, 3.45 (4.0) in head length; eighth and ninth dorsal soft rays longest, 2.25 (3.4) in head length; origin of anal fin slightly posterior to a vertical at base of ninth dorsal spine; first anal spine 7.45 (8.45) in head length; second anal spine 5.7 (6.3) in head length; third anal spine 4.4 (4.65) in head length; penultimate anal soft ray longest, 2.8 (3.5) in head length; caudal fin slightly rounded, its length 1.7 (1.7) in head length; pectoral fins slightly pointed, the seventh ray longest, 2.05 (2.2) in head length; pelvic fins short, the first and second soft rays longest, 3.3 (2.85) in head length.

Color of holotype in alcohol: scaled part of head and body light brown; a faint narrow dusky stripe from front of scaled part of nape, passing adjacent to the upper part of lateral line, and ending dorsally on caudal peduncle; a faint large triangular dusky spot anteriorly in center of opercle; a faint dusky stripe on side of snout; lips, adjacent snout and chin, fleshy edge of orbit, and roof of nasal organ pale; fins pale, the dorsal with a narrow longitudinal dusky stripe in middle of fin; caudal fin with a faint median dusky stripe.

Color of holotype when fresh: white with a midlateral red stripe from front of lips, faintly through eye, and continuing to end of caudal fin; about ten red blotches superimposed on lateral red stripe of body, their edges extending above and below stripe (blotches largest anteriorly and on middle of body); a narrow red stripe dorsally on head and body (the dusky stripe described above on preserved specimen); dorsal fin light yellow basally, deeper yellow distally, the two zones separated by a narrow dusky band, the margin narrowly pale blue; anal fin whitish basally, shading outwardly to yellow, with a pale blue margin; caudal fin yellow,

suffused with orange, with a median red stripe (continuous with lateral stripe of body); pectoral fins pale yellowish; pelvic fins white; iris mainly yellow.

Color of juvenile paratype in alcohol: pale with two faint dusky stripes, one midlateral and one dorsal; a blackish blotch posteriorly on opercle; fins pale except for a median blackish band in caudal fin (much darker than the dusky lateral stripe on body with which it is continuous).

Color of juvenile paratype when fresh: a midlateral red stripe from front of snout and chin through eye to end of caudal fin, containing a small dusky spot on opercle and a conspicuous elongate blackish spot in caudal fin; head below stripe white; body below stripe orange except for thorax and ventral part of abdomen which are white; a second red stripe from above eye, passing along dorsal part of body, and ending dorsally in caudal fin; two red stripes of head and body separated by a narrow yellow stripe which continues into caudal fin; dorsal and anal fins pale orange, the dorsal with red spines; paired fins pale.

Remarks.—The specific name of this colorful wrasse, *rubrovittatus,* is derived from the Latin *rubrum* for red and *vittatus* for striped, in reference to the two red stripes.

Terelabrus rubrovittatus is described above from the two type specimens, one a mature male, the other a juvenile. Its occurrence in about 100 m, hence deeper than SCUBA-diving depths with air, is the likely reason more material has not been obtained. Also its small size has no doubt prevented its being taken by hook and line.

More specimens should be sought so that osteological and other studies can be carried out to better determine the relationships of *Terelabrus* to other labrid fishes.

Acknowledgments

Special thanks are due J. L. Earle for capturing the juvenile of *Terelabrus rubrovittatus* and to R. L. Pyle and L. R. O'Hara for radiographs of the holotype and specimens of species of *Bodianus.*

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Date Accepted: June 12, 1996.

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Addendum

While this paper was in press, the senior author received an underwater color photograph from Rudie H. Kuiter of a slender wrasse that appears to be a juvenile of *Terelabrus rubrovittatus.* The photograph was taken by Takamosa Tonozuka in 25 m at Tulamben on the northeast coast of Bali.

On May 10, 1997 Richard L. Pyle of the Bishop Museum collected a juvenile of *Terelabrus rubrovittatus* (BPBM uncat., 40 mm SL) with hand nets off Augulpelu Reef, Palau at a depth of 92 m on a sand-rubble terrace of a drop-off. Pyle was using mixed-gas rebreather dive gear. The specimen was one of a group of four individuals (one was twice its size and another distinctly smaller). The specimen differs slightly in meristic data from the two types, having 16 pectoral rays and 44 lateral-line scales. It is not designated as a paratype.